NOvA Experiment Status

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All Experimenter's Meeting January 13, 2014

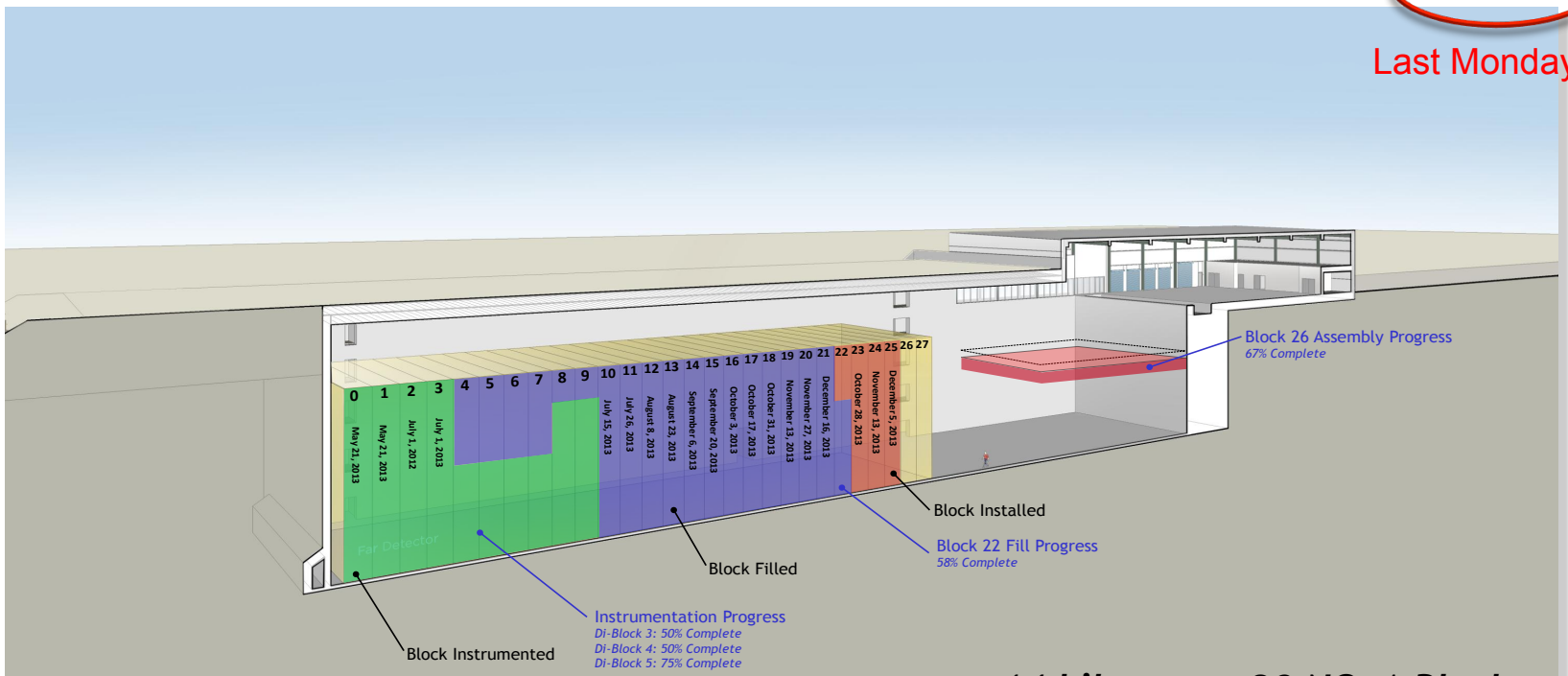
Detector Assembly Progress

The Intensity Frontier

NOvA Far Detector Assembly Progress

Status Date: 06JAN14

Last Monday



14 kilotons = 28 NOvA Blocks

26 blocks of PVC modules are assembled and installed in place

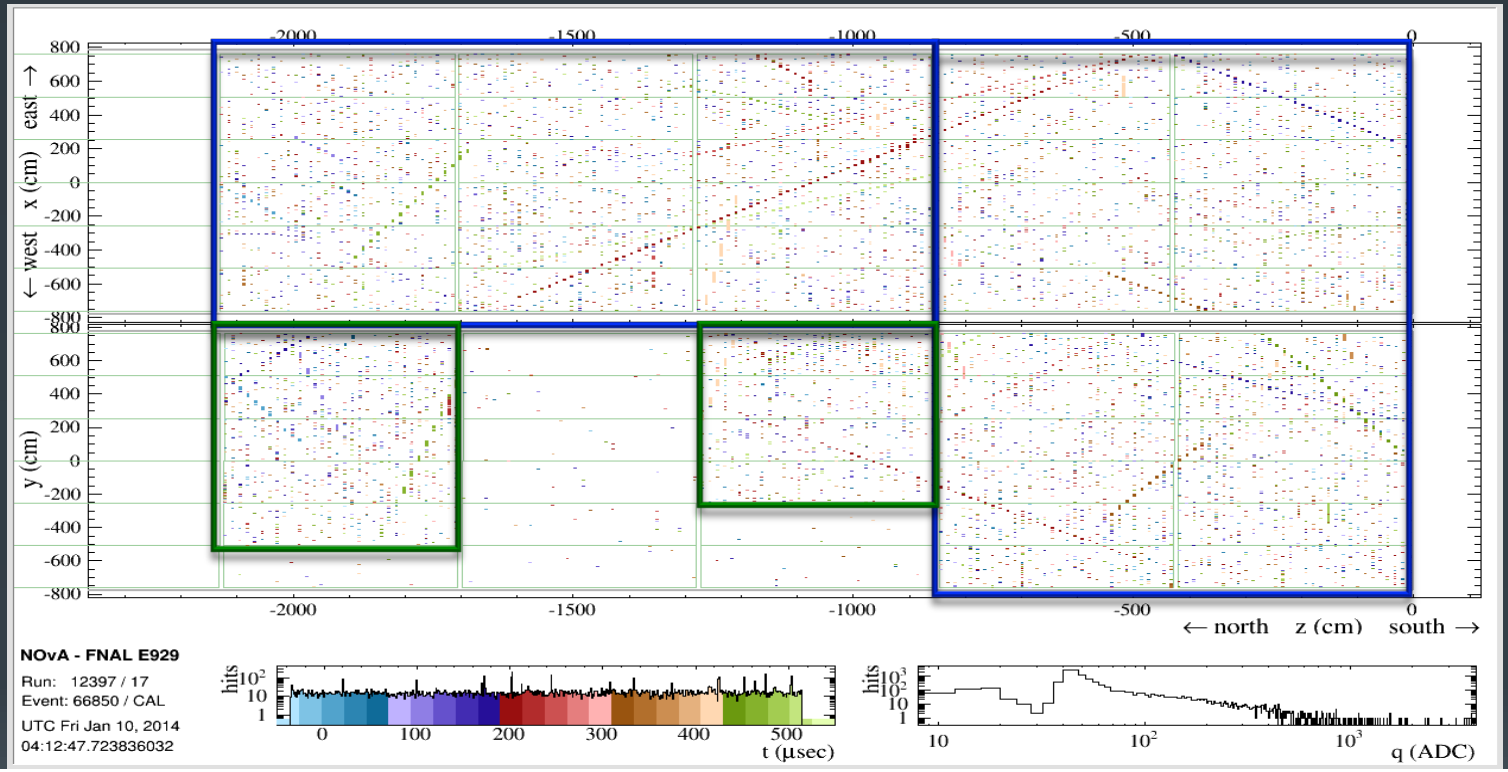
22.5~~8~~ blocks are filled with liquid scintillator

7.5 ~~blocks~~ are outfitted with electronics

23 blocks

8.5 blocks

Far Detector Data-Taking



Cold APDs, full gain HVs

- Diblocks 1,2 – APDs w A174 original installations (some replacements)
- Diblocks 3t,4t – APDs w/o A174
- Diblock 5t – APDs w A174 baked

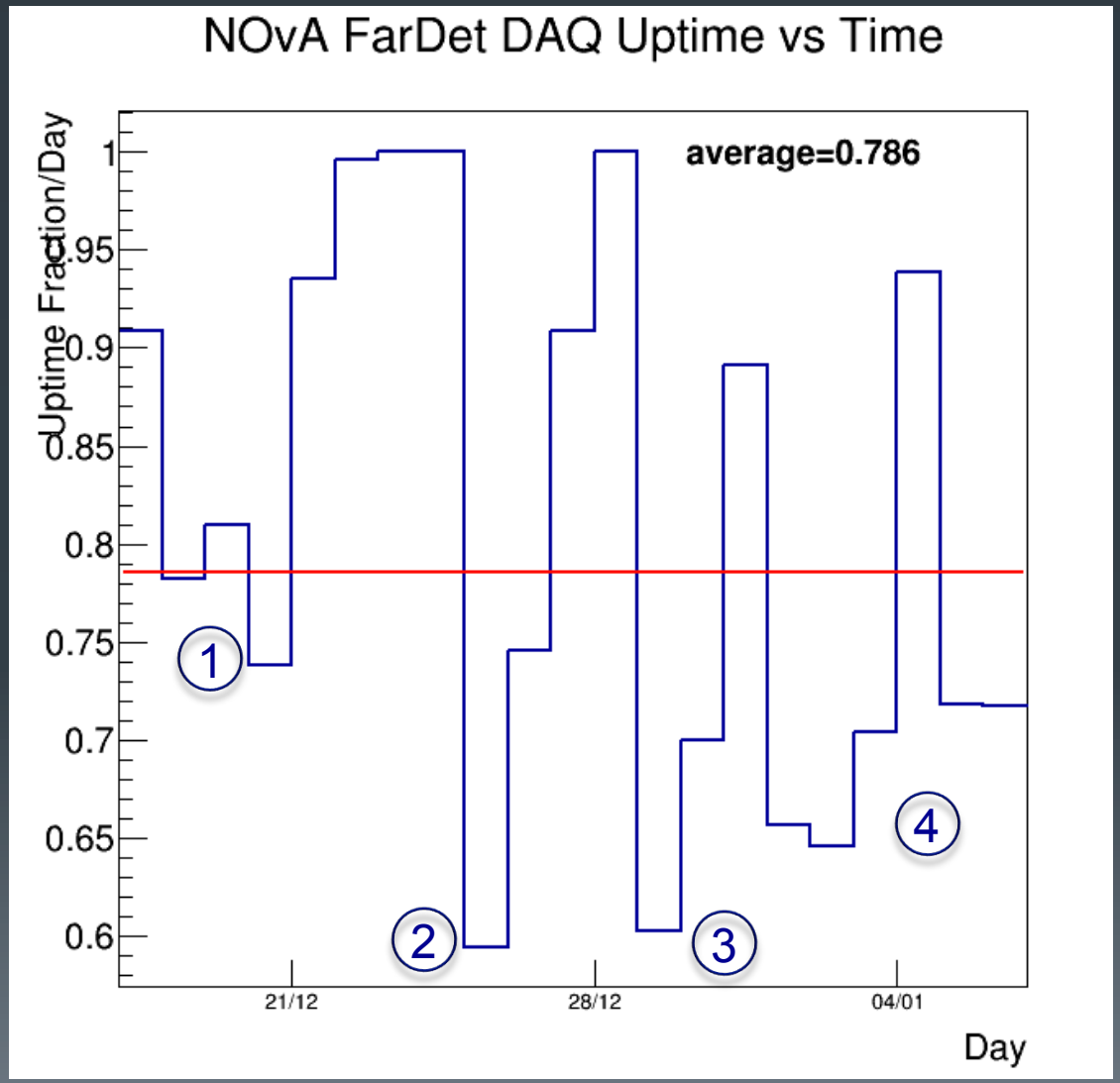
Warm APDs, full gain HVs

- DCMs-2-03-07 – APDs w/o A174
- DCMs-2-05-{07-10} – APDs w A174 baked

Warm APDs, HV = 350V

- DCM-2-03-{8-10} – APDs w/o A174
- DCM-2-05-11 – APDs w A174 baked

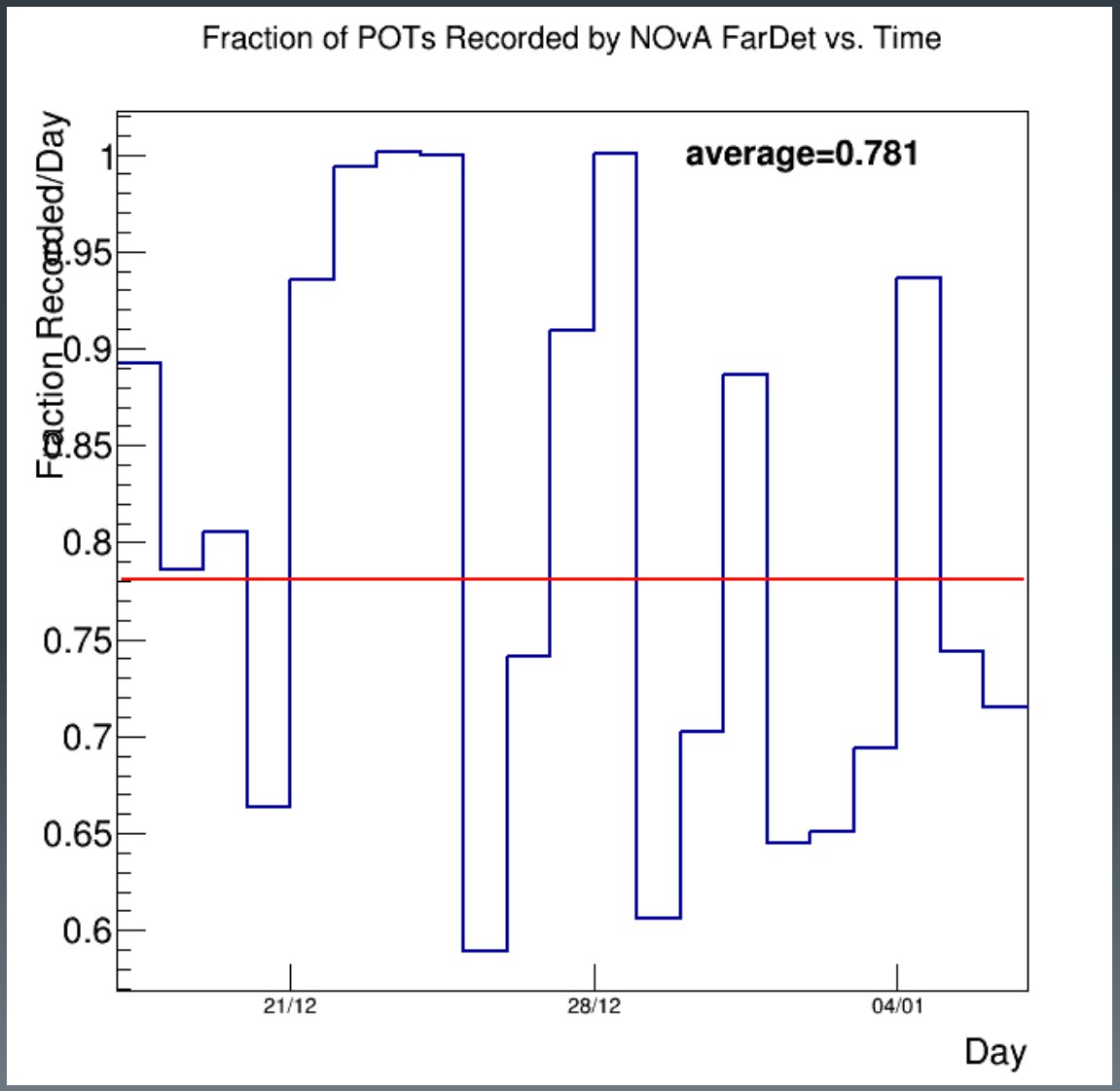
DAQ Uptime – 21 (holi)days



① DAQAppManager "problems" – kerberos problem
② Water leak – DB 01t
③ AC trip in AR computer room – New Years Eve ~midnight, approaching 90F in room, -43F outside!
④ Water leak + Run Start problems during recovery

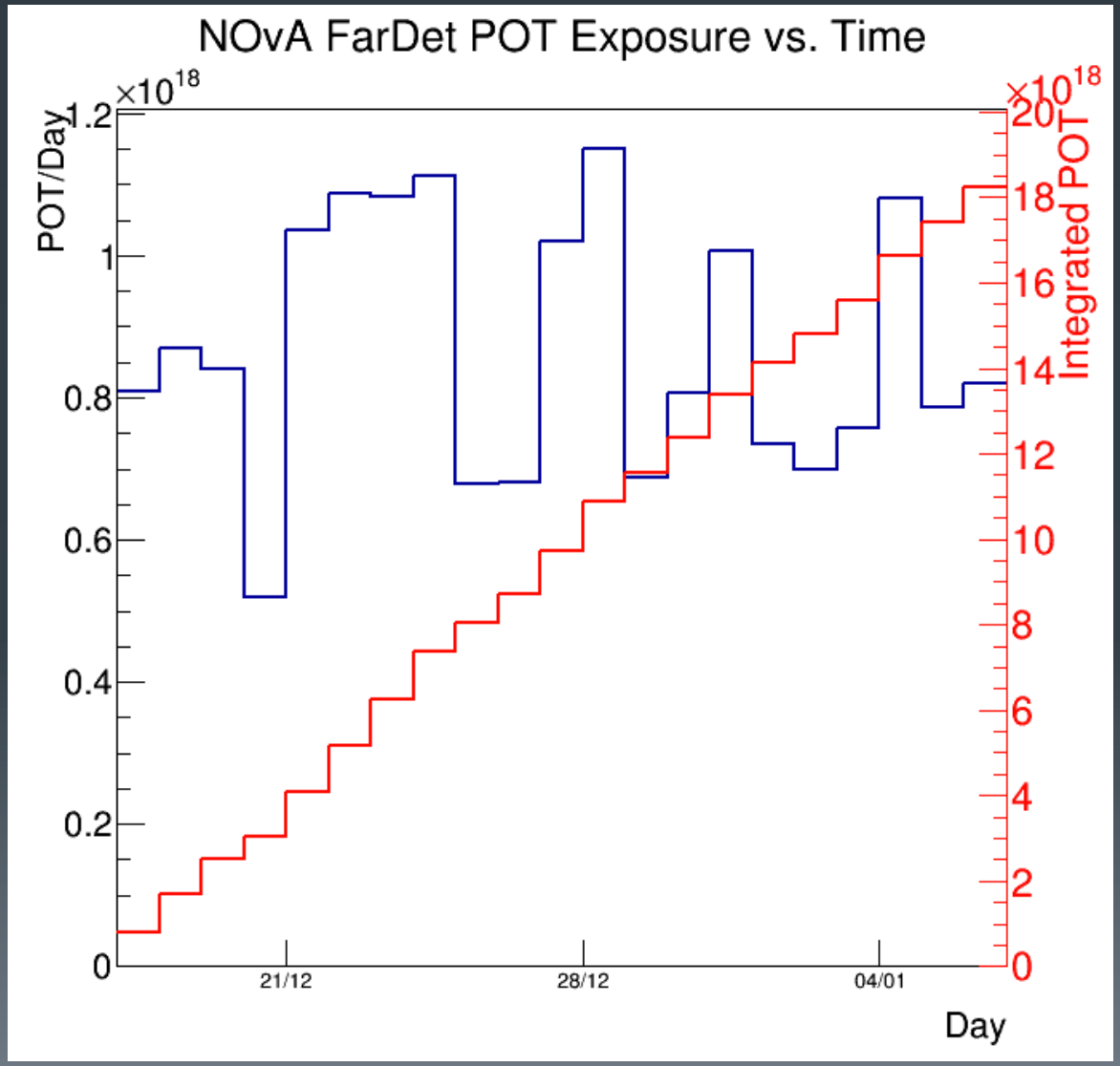
Average ~79% - weekend average normally closer to 90%

Fraction of POTs Recorded



Good 3 weeks for beam – what POTs we missed were ~due to our problems detailed on the previous slide

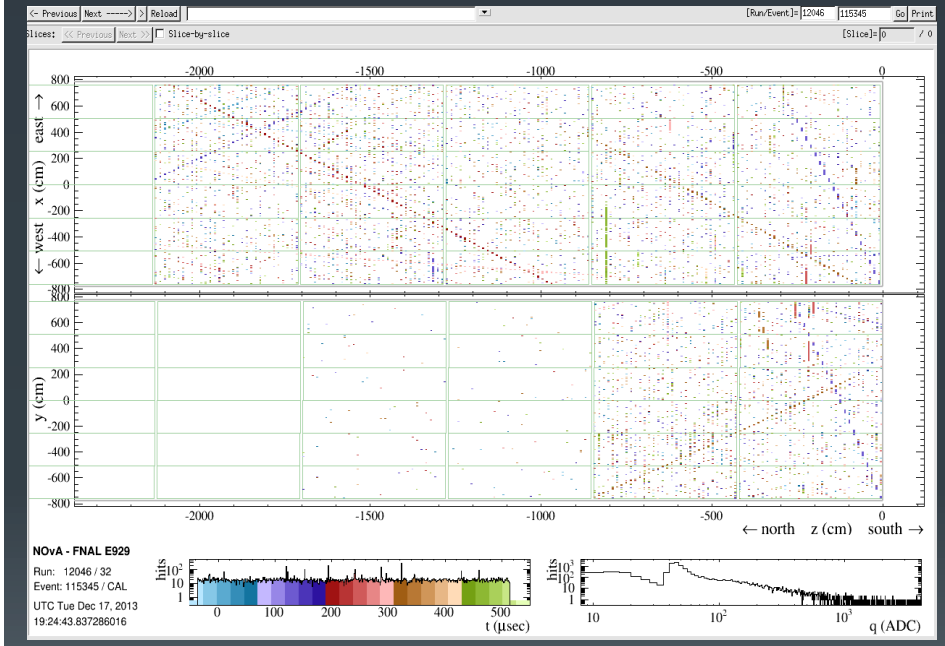
POT Exposure (Daily/Integrated)



- <1E18 per day average
- Total of ~1.8E19 POT for holiday weeks (last ~21 days)

Performance - Week of Dec 17

DiBlocks 1 and 2 (A174), 3top (no A174) – full gain, cold; Diblock 4top – full gain, warm, no A174; Diblock 5top – full gain, warm, A174, baked; remainder of DiBlocks, DCMs – FEBs only.

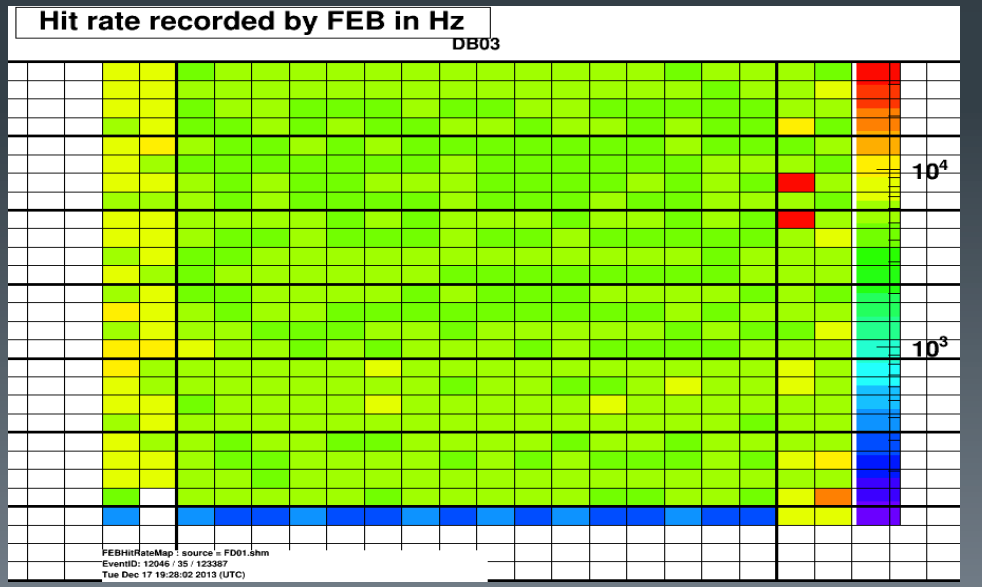


DAQ performance keeping up with detector growth :

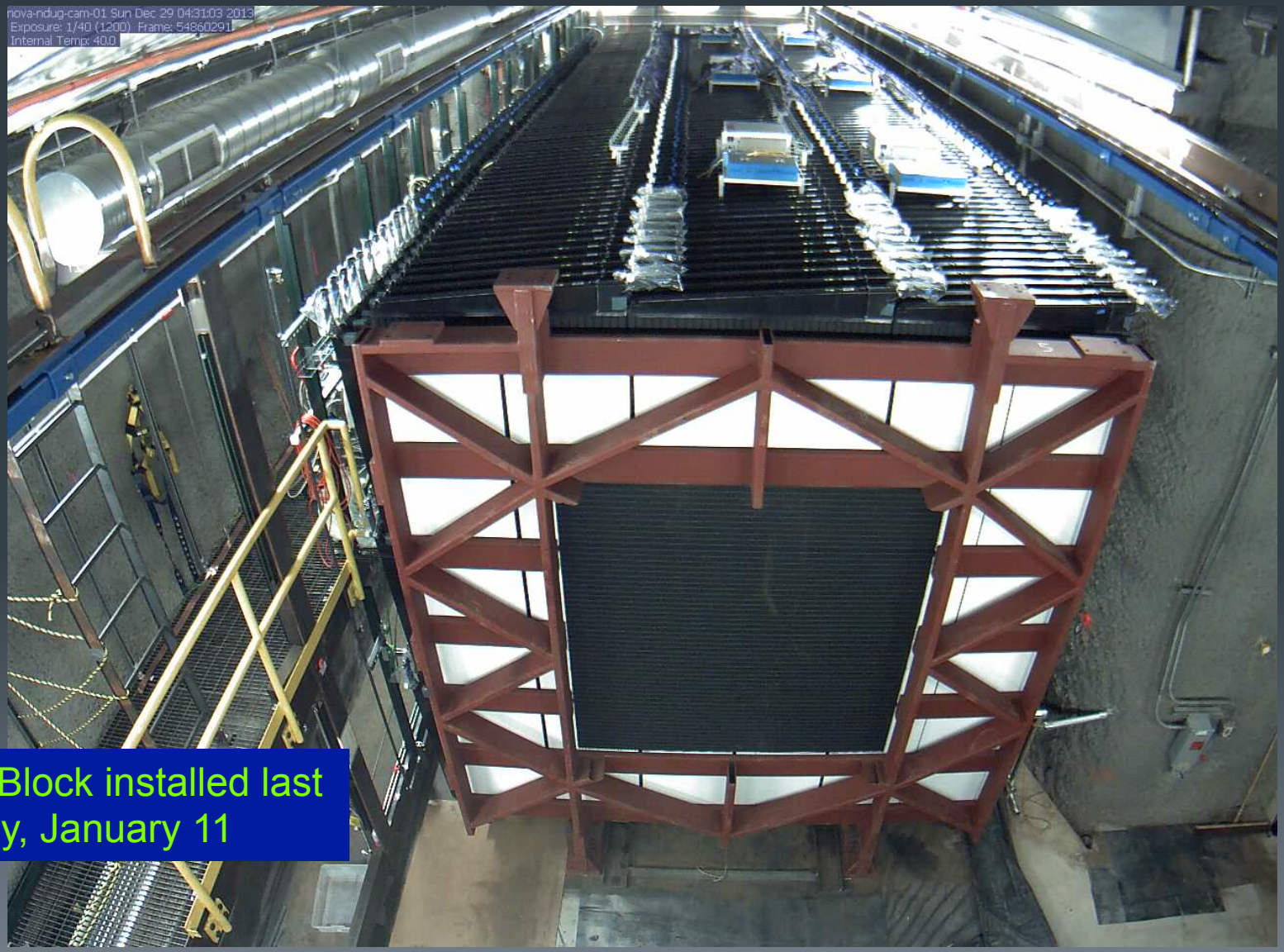
- Ran with 144 DCMs in pattern mode – 11 complete diblocks + 2(1/2) diblocks (equivalent of 12 diblocks)

Cooled APDs looking good :

- Total of 61440 channels cooled – 61280 are active (99.74%) (5 FEB/APDs with no hits, no FEB/APDs with <32 channels inactive)
- *On Diblock 3t (no A174), 384/384 FEB/APDs cooled (100%), 12288/12288 channels active (100%)*



Near Detector Block Installation Complete



Last Block installed last Friday, January 11

Summary

- Cooled APDs looking good – especially those without A174 primer coating
- Working on solving problems that will increase our Uptime efficiency :
  - Run starts
  - DSO (pedestal runs) scan times
  - Shift efficiency during APD installation (better/standard procedures)
- Experience with 2-person shifts during daytime for 2 detectors in commissioning :
  - Collaborators spending more time on detector operations
  - Shifters helping each other with procedures, problems, etc.
  - Overlap helps with training and communications
- Near Detector block installation is complete!